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Book Review

INTERFACIAL PHENOMENA IN POLYMERS, by Yuri S. Lipatov.
Naukova Dumka Publ., Kiev, 1980. 259 pp. (in Russian).

This book is the fourth in a series of monographs on closely related subjects published by Professor Yu. S. Lipatov since 1967. It consists of 7 main chapters and a small concluding section. As becomes apparent from the Preface, the choice of topics dealt with in this book was motivated by the Author's belief that any theory of interphase phenomena in polymers claiming generality should consist of three basic parts,

- a) Theory of polymer adsorption and adhesion to solids,
- b) Structural-thermodynamic theory of polymer properties at interfaces, and
- c) Theory of interfacial phenomena in filled polymers and polymeric blends and alloys.

Topic (a) is treated in chapters 1 and 2 where the Author gives the up-to-date account of current theoretical concepts and experimental data on polymer adsorption on solids, with a special emphasis on temperature, chain length and concentration effects. Chapters 3 and 4 deal mainly with topic (b). Here the reader will find some new data on chain packing, conformation and properties of a polymer as a function of a distance to the solid surface.

The final three chapters are concerned with topic (c). Of special interest here are paragraphs on thermodynamics of interactions in mixtures of polymer homologs differing in chain length. The problem of structure formation in interphase layers, which is of key importance to understanding many properties of block-copolymers and polymeric alloys, is discussed from a colloid-chemical standpoint pioneered by Professor Lipatov and his students.

It is felt that the present book should not be considered (and, in fact, was not intended by the Author) as an introductory course for newcomers. In other words, rather experienced workers in the field would benefit most from

reading this book, a translation of which into English would be thus most welcome.

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